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Docket No.: 23515-3001  
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P A T E N T

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant: Robert Dant

Serial No: 10/802,661

Filed: March 17, 2004

Title: NETWORK-BASED DATABASE  
COMMUNICATION SYSTEM

Docket No: 23515-3001

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Examiner: Susan F. Rayyan

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**APPEAL BRIEF UNDER 37 C.F.R. § 1.191 & § 41.37**

Pursuant to 37 C.F.R. § 1.191, § 41.37(c) and generally to § 41.37, following is an Appeal Brief in support of the Appeal filed on September 15, 2008, appealing the Final Office Action dated July 10, 2008. In response to the Final Office Action, Appellant appeals the rejections therein.

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(i) REAL PARTY IN INTEREST

The real party in interest is Be-Centric, LLC, the assignee of record.

(ii) RELATED APPEALS AND INTERFERENCES

None.

(iii) STATUS OF CLAIMS

Claims 1-31, 46-49, are rejected under 35 U.S.C. §§ 101 and 103, and Claims 51-58 are rejected under 35 U.S.C. §103. Claims 32-45 and 50 are withdrawn. No claims are allowed. Claims 1-31, 46-49, and 51-58 are appealed herein.

(iv) STATUS OF AMENDMENTS

No claim amendments were filed subsequent to the final rejection dated July 10, 2008.

(v) SUMMARY OF CLAIMED SUBJECT MATTER

The present invention is generally directed towards a configuration of a number of networked database systems, the configuration enabling direct communication between the database systems. See Paragraphs 0009, 0049, 0055. Within the configuration of the system, various components (an identification system, a matching component, a communication component, and the like) are utilized to provide unique identification to data within the database and improve communication between the database systems. Through use of the various data identification operations and communication configurations, the database systems are enabled to communicate and exchange data with each other directly, rather than being relegated to use of indirect communication methods.

More specifically, Appellant's independent claim 1 generally recites a first database system [Paragraphs 0010, 0061], a second database system in communication with the first database system [Paragraphs 0010, 0061], and an identification system in communication with each of the first and second database systems, the identification system configured to assign unique identification to data stored within each of the first and second database systems [Paragraphs 0010, 0050, 0084], wherein the first database system, second database system, and identification system are configured to support direct and indirect communication with each other [Paragraphs 0009, 0050-0051, 0133].

Similarly, independent claim 30 recites a database and a matching component in communication with the database, [Paragraphs 0011, 0057, 0162] with the matching component configured to receive information regarding an expected transaction and compare the information regarding the expected transaction with information regarding an actual transaction at the database [Paragraphs 0011, 0057, 0158], and wherein direct or indirect communication occurs between the database and matching component [Paragraphs 0009, 0050-0051, 0133].

Independent claim 46 recites a first database system comprising: a first database configured to receive data [Paragraphs 0014, 0050] and a first server comprising a first communication component configured upon receipt of data into the first database to identify a database system in communication with the first database system to receive first information and transmit the first information out of the first database [Paragraphs 0014, 0055, 0070]; a second database system in communication with the first database system [Paragraphs 0014, 0050], the second database system comprising a second database configured to receive data [Paragraphs 0014, 0050]; and a second server comprising a second communication component configured upon receipt of data into the second database to identify a database system in communication with the second database system to receive second information and transmit the second information out of the second database [Paragraphs 0014, 0055, 0070]; and an identification system in communication with each of the first and second database systems, the identification system configured to assign unique identification to data stored within each of the first and second database systems [Paragraphs 0014, 0055]; wherein the first database system, second database system, and identification system are configured to support direct and indirect

communication with each other [Paragraphs 0009, 0050-0051, 0133].

Independent claim 47 recites a communication network comprising: at least two database systems, [Paragraphs 0015, 0053, 0072] with each of the at least two database systems comprising: a database [Paragraphs 0015, 0050, 0073]; a server associated with the database comprising a communication component configured to receive outgoing information from the database, identify at least one of the at least two database systems to receive the outgoing information, and transmit the outgoing information to the at least one of the at least two database systems [Paragraphs 0015, 0058, 0074-0075]; a connection component in communication with the database [Paragraphs 0015, 0054, 0058]; and at least one external system, each of the at least one external systems in communication with the connection component of one of the at least two database systems [Paragraphs 0015, 0058]; wherein the at least two database systems are configured to support direct and indirect communication with each other [Paragraphs 0009, 0050-0051, 0133].

Independent claim 51 recites a method for performing network-based database communication, comprising the steps of: transmitting information out of a first database with assistance with a first transmission component within the first database upon input of data into the first database [Paragraphs 0017]; adding time information to the information [Paragraphs 0017]; and transmitting the information to a second database via direct or indirect communication to the second database [Paragraphs 0017, 0050-0051, 0133].

Dependent claims 6-7 and 13-14 generally recite the use of a translation component within the database server configured to translate the information into a format compatible with any database system in communication with the database system [Paragraphs 0056, 0149 for claim 6; paragraphs 0077, 0102 for claim 13]. Further, dependent claims 7 and 14 detail that the translation component comprises a dictionary component comprising format information for any database system in communication with the database system [Paragraphs 0075, 0076, 0102 for claim 7; paragraphs 0075, 0082, 0102 for claim 14], and a translator component configured to utilize format information from the dictionary component to translate the information into a format compatible with any database system in communication with the database system [Paragraphs 0075, 0077, 0082 for claim 7; paragraph 0075, 0077, 0082 for claim 14].

Dependent claims 8-10, 15-17, and 31 generally recite the use of a matching component in communication with the database that is configured to receive information regarding an expected transaction and compare the information regarding the expected transaction with information regarding an actual transaction at the database [Paragraphs 0011, 0160, 0162 for claim 8; paragraphs 0011, 0161, 0162 for claim 15]. The first matching component is further configured to cause a matching notification to be transmitted out of the database system if the information regarding the expected transaction matches the information regarding the actual transaction [Paragraphs 0011, 0160, 0163 for claim 9; paragraphs 0011, 0161, 0163 for claim 16; paragraphs 0011, 0163, 0160 for claim 31]. Additionally, the matching component is further configured to cause a non-matching notification to be transmitted out of the database system if the information regarding the expected transaction does not match the information regarding the actual transaction [Paragraphs 0011, 0160, 0163 for claim 10; paragraphs 0011, 0161, 0163 for claim 17].

Dependent claims 18-25, 48-49, and 52-53 generally recite an external system in communication with the database system [Paragraphs 0015, 0137 for claim 18; paragraphs 0015, 0142 for claim 22]; further comprising a connection component in communication with the database and the external system [Paragraphs 0015, 0137 for claim 19; paragraphs 0015, 0143 for claim 23]; configuring the external system to input data into the database system, with the external system comprising a gathering component in communication with the connection component that is configured to receive external data and transmit the external data to the first connection component [Paragraphs 0138-0140 for claim 20; paragraphs 0144-0146 for claim 24; paragraphs 0015, 0158 for claim 48]; and at least one external file in communication with the gathering component, the at least one external file configured to provide the external data to the gathering component [Paragraphs 0138-0140 for claim 20; paragraphs 0144-0146 for claim 24]. Method claims 52 and 53 similarly comprises connecting the database to an external system [Paragraphs 0015, 0148 for claims 52 and 53], and receiving data at the database from the external system [Paragraphs 0015, 0148 for claims 52 and 53]. Additionally, the external system is configured to receive data from the database system, with this external system comprising a delivery component in communication with the connection component that is configured to

receive data from the connection component and transmit the data [Paragraphs 0139-0141 for claim 21; paragraphs 0145-0147 for claim 25; paragraphs 0139-0141 for claim 49]; and at least one external file in communication with the delivery component, the at least one external file configured to receive the data from the delivery component [Paragraphs 0139-0141 for claim 21; paragraphs 0145-0147 for claim 25; paragraphs 0139-0141 for claim 49].

Dependent claims 26-29 generally recite the use of a transmission tracker file in communication with the server that is configured to receive the information that could not be transmitted out of the database system [Paragraphs 0110, 0116 for claim 26; paragraph 0110, 0116 for claim 28], and a transmission time tracking component in communication with the transmission tracker file that is configured to track a period of time that the information could not be transmitted, the time tracking component further configured to transmit a message to an administrator after a predefined period of time [Paragraphs 0110, 0116 for claim 26; paragraph 0110, 0116 for claim 28]. Within Claims 27 and 29, the application tracker file is in communication with the first server that is configured to receive information that could not be applied to the database [Paragraphs 0119, 0120 for claim 27; paragraphs 0119, 0120 for claim 29]; and an application time tracking component in communication with the first application tracker file that is configured to track a period of time that the information could not be applied, the time tracking component further configured to transmit a message to an administrator after a predefined period of time [Paragraphs 0119, 0120 for claim 27; paragraphs 0119, 0120 for claim 29].

(vi) GROUND OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether claims 1-31, and 46-49 are unpatentable under 35 U.S.C. §101 as being directed to nonstatutory subject matter?

2. Whether claims 1-31, 46-49, and 51-58 are unpatentable under 35 U.S.C. §103(a) as being obvious over Applicants Admissions and PCT Publication WO 93/23817 issued to Timothy Shear (hereinafter *Shear*)?

(vii) ARGUMENT

(A) THE CLAIMED SUBJECT MATTER IS STATUTORY UNDER §101

Claims 1-31 and 46-49 are rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. In detail, the Final Rejection states that Claim 1 is directed to a database communication network comprising a first database system, a second database system, and an identification system, but the specification “does not specify the first database system, the second database system, and the identification system as hardware.” Further, the Final Rejection states: “[A]t least one of the claimed elements of an apparatus claim must include physical hardware. Therefore the claims are viewed as software per se.”

Similarly, Claim 30 recites a database system comprising a database and a matching component. The Final Rejection states that the specification “does not specify the database and matching component as hardware,” such that these elements are viewed as software per se; Claim 46 is directed to a database communication network comprising a first database, a second database, and an identification system, to which the specification “does not specify the database and matching component as hardware,” such that these elements are viewed as software per se; and Claim 47 is directed to a communication network comprising a database, a server, a connection component, and at least one external system, to which the specification “does not specify a database a server, a connection component and at least one external system as hardware,” such that these elements are viewed as software per se.

Based on the arguments outlined below, Appellant submits that the claims clearly demonstrate an invention that is a statutory machine or apparatus, and does not fall under any of the judicial exceptions to statutory subject matter under §101. Although the format of the claims is directed towards a machine or apparatus, the proper inquiry is not whether “physical hardware” must be included within the claimed elements or defined in the specification for the claimed elements. Nevertheless, the claims, reasonably interpreted in light of the specification, recite components which may be considered “physical hardware.” Accordingly, the subject matter of the claim cannot be reasonably interpreted as unpatentable “software per se.”

(1) The Claimed Invention Is a Machine, and Does Not Fall Under a §101 Judicial Exception

As enumerated in Section 101, there are four categories of statutory subject matter:



process, machine, manufacture, or composition of matter. As is clear from the plain meaning of the claims, the recited “database communication network” is claimed as a machine which comprises a number of machine elements (e.g., a database system, a server, etc.). Further, the Final Rejection itself suggests that the claim encompasses a machine, referring to the “claimed elements of an apparatus claim.”

Appellant therefore submits that a rejection of the claimed apparatus as being non-statutory under §101 is improper. The presently claimed invention further does not fall under any of the judicially created exceptions to the subject matter patentability under §101, which exclude natural phenomena, laws of nature, or abstract ideas such as a mathematical algorithms from statutory subject matter. *See* *Diamond v. Diehr*, 450 U.S. 175, 185 (1981); Manual of Patent Examining Procedure (MPEP), Eighth Edition, Revision 7, §2106(IV)(C). The exclusion of the claims within the Final Rejection for not including “physical hardware” or being “viewed as software per se” does not directly correlate to any of these judicial exception categories.

Even when considering the judicially created exception for excluding abstract ideas from statutory subject matter, the claimed invention generally recites a database communication network comprising various databases, systems, servers, and computing elements. Thus, the claimed invention recites structural and tangible elements which may be embodied in physical hardware, and is not limited to the characteristics of an abstract item such as a mathematical algorithm or transitory signal. *Cf. In re Nuijten*, 500 F.3d 1346 (Fed. Cir. 2007).

Further, even if the claim were interpreted as being directed to a collection of abstract elements or the performance of an abstract process, the test for statutory subject matter under §101 as iterated in *In re Bilski* would require the claim to be (a) tied to a particular machine or apparatus, or the (b) transformation of a particular article into a different state or thing. *Bilski*, --- F.3d ---, 2008 WL 4757110 at \*5 (Fed. Cir. 2008). Under either of these tests, the presently claimed invention proves to be statutory.

Appellant first submits that the database communication network of the presently claimed invention is tied to a particular machine or apparatus. Namely, the network is tied to the recited specific machine elements of database systems, servers, identification systems, and the like. The

actions which are performed within the claims are also tied to these machine elements—e.g., the assignment of unique identification by the identification system; the transmission of notification transmitted by a server and various components; the receipt of information by the server. Each of these actions are tied to specific, non-abstract elements of the networked database system.

Second, as recited, the presently claimed invention includes a configuration of a network that enables communication to occur between disparate database systems. The claimed elements are therefore “transformed” by being changed from a state of being unable to communicate, to another state of being able to communicate both directly and indirectly. In other words, with use of the claimed invention, the recited database systems are enabled to communicate in a way that they previously were not able to, producing a non-abstract, beneficial result. The features of the claim therefore clearly evidence specific, substantial, and credible transformative utility.

In summary, the express recitation of a manufacture by the claims evidences the claimed subject matter as statutory under §101. However, even if either a judicial exception to statutory subject matter was applicable to the claims, or the process standards of *In re Bilski* applied to the present claims, the claim still would properly be classified under a practical application of a §101 judicial exception and is “deserving of patent protection.” *See Diehr*, 450 U.S. at 187.

(2) The Final Rejection’s Requirement of “Physical Hardware” is Improperly Applied to the Claims

Appellant submits that the Final Rejection’s requirement that “at least one of the claimed elements of an apparatus claim must include physical hardware” is incorrect and unsupported by current examining procedure and established precedent. For example, in the context of process claims, a claim may be patentable even if is not tied to a “particular machine or apparatus.” *See Gottschalk v. Benson*, 409 U.S. 63, 71-72 (1972); *In re Bilski*, 2008 WL 4757110 at \*3-4. Conversely, the combination of an unpatentable process, even a mental process, with a machine such as a general purpose computer may be sufficient to produce statutory subject matter. *See In re Comiskey*, 499 F.3d 1365, 1380 (Fed Cir. 2007); *Diehr*, 450 U.S. at 178-179 (1981).

Nonetheless, the plain meaning of the claim elements and the specification to a person of ordinary skill and knowledge of the art evidences the use of physical hardware within numerous claims. For example, the claimed element of a “database system” is defined in one section of the

Specification as having “a database...and database software” (Paragraph 0050). The Specification also describes “software...residing on the database systems” and “residing on the identification system” (Paragraph 0055). A reasonable interpretation of these descriptions of the database system and identification system would indicate that each of these claimed systems comprises hardware components which execute software, rather than exclusively comprising software themselves.

It would also be clear to one skilled in the art that the meaning of “system” could refer to physical hardware or a combination of hardware and software, and that a “database system” could refer to a combination of a software database and a hardware server. Moreover, any reasonable interpretation of the claims would hold that a database system might require the use of a physical computer hardware element.<sup>1</sup>

Finally, numerous rejected claims recite the use of elements which have a standard accepted meaning relating to hardware. For example, Claims 4, 46, and 47 each recite the use of a “server.” Any reasonable interpretation of the term “server” by a person ordinarily skilled in the art would understand its composition to be a hardware-based computing system. Therefore, even if a requirement exists for the claims to recite hardware elements, the pending claims can reasonably be found to recite such hardware elements, and are statutory under §101.

(3) The Claimed Invention Is Not Software “per se” Or Descriptive Material “per se”

As there is no clearly established definition or use of the term “software per se” within the current version of MPEP, Appellant interprets the rejection as suggesting that the claimed elements are descriptive material per se. Under the guidelines for computer-related nonstatutory subject matter as set forth in MPEP §2106.01, “functional descriptive material consists of data structures and computer programs which impart functionality when employed as a computer component.” Appellant submits that each of the claims contain physical elements which are

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<sup>1</sup> Within *in re Comiskey*, 499 F.3d 1365 (Fed Cir. 2007), in a similar circumstance of interpreting a system claim reciting a number of “modules” and “means for selecting...[from a] database”, the claim was found to contain requisite elements of statutory subject matter. “These claims, under the broadest reasonable interpretation, could require the use of a computer as part of [the at issue] system.” *Id.* at 1379 (emphasis added). The *Comiskey* decision further suggested that the term “database” would implicate the use of a computer, citing a definition of database as “any electronically-stored collection of data.” *Id.*

distinguishable from descriptive material or other abstract data structures and programs, as the claims contain hardware elements, recited as a “system”, “network”, “server”, and the like.

Further, as is stated in MPEP §2106.01, although descriptive material is nonstatutory when claimed as descriptive material *per se*, functional descriptive material will be considered statutory if the use of technology “permits the function of the descriptive material to be realized.” Thus, even if the pending claims are broadly interpreted as including “descriptive material”, per § 2106.01, such claims may still be considered statutory under §101.

Appellant submits that the claimed invention performs acts involving requisite functionality to accomplish a practical application of technology, through the claimed elements which function to enable communication between database systems. A combination of numerous software components with other statutory subject matter, regardless of the function of the software components, has held to be statutory under §101. *See Ex parte Bo Li*, Appeal 2008-1213, at 9, (Bd. Pat. App. & Int. Nov. 6, 2008). As discussed above, in compliance with *In re Bilski*, the claimed invention is non-abstract, is tied to a particular machine or apparatus, and operates to transform particular articles into a different state or thing. The Final Rejection does not address any arguments related to this standard outside of its conclusory statement that the claims are directed to software *per se*.

Accordingly, the claimed invention cannot be considered as non-statutory descriptive matter or “software *per se*”. Appellant submits that the database communication network elements as recited in the independent claims provide statutory subject matter under §101 and the examination guidelines of MPEP §2106.

(B) THE CLAIMED SUBJECT MATTER IS NON-OBVIOUS UNDER §103(a) OVER APPLICANTS ADMISSIONS AND THE *SHEAR* REFERENCE

The Final Rejection rejected claims 1-31, 46-49, and 51-58 under 35 U.S.C. §103(a) as being unpatentable over Applicant’s Admissions and WO 93/23817 issued to *Shear*. Specifically, the Final Rejection alleges that the first database system and a second database system elements are disclosed by Applicant’s Admissions within the Specification (namely, Figure 1), with the remainder of the limitations purportedly disclosed by the *Shear* reference.

As outlined below, Appellant submits that numerous differences exist between the cited prior art and the claimed invention, and in particular, the combination of cited art fails to teach or suggest each and every element of the claimed limitations. Further, Appellant submits that the plain meaning of the teachings within the *Shear* reference in combination with Appellant's prior art Admissions would not render the database system of the claimed invention obvious to one of ordinary skill in the art. Therefore, the §103(a) rejection is unsupported by the cited art, and a prima facie case of obviousness has not been established for the pending claims.

(1) The *Shear* Reference Fails to Teach or Suggest an Assignment of Unique Identification to Data Stored within the Database Systems as in Claims 1 and 46

Independent Claims 1 and 46 generally recite the use of an identification system that is configured to assign unique identification to data stored within the database systems. Further, Claims 2, 3, 5, 12, 30, and 47 further recite the use of components which enable the identification of data between disparate databases. Appellant submits that the various claimed features related to identification of data within the claimed invention are not taught or suggested by the combination of the cited prior art, in particular, the *Shear* reference.

As recited within the claims, the use of these identification features within the claimed invention enables a database network "to support direct and indirect communication" between the database systems and the identification system. For example, as described in at least Paragraphs 0062-0064 of the present invention Specification, the identification system facilitates the assignment of identification throughout the database systems in order to uniquely identify databases and records. This identification is used to ensure that each data record existing in the database is unique across the entire network (such as is recited in Claim 3), so that data in one database system can be easily distinguished and identified from data in other systems.

One important function of the claimed identification system is to enable identification of data in an entire network domain by assigning unique identifications, to solve the problem of different and/or incompatible data identification schemes existing in disparate and separate systems. Because databases create unique identifiers by assigning keys or combining one or more field values, it is possible that databases from disconnected systems might utilize the same identical key for different records. As explained in Paragraph 0065 of the Specification, the

claimed invention overcomes this problem by using a common identification system to assign identification to each data record in the first and second disparate database systems.

Therefore, once the data records within the database systems are identified with use of the claimed identification system, communication between the databases can occur without the potential of data record identity conflicts. As a result, a business entity operating one database system may share its database-stored data with another entity utilizing a different database system, without the need for intermediate third party services or the use of industry-standard messages to reformat or repackage the data.

In contrast to the claimed features of the present invention, the *Shear* reference discloses a data interchange system which uses number of translators to convert messages exchanged between database systems from one format to another. See *Shear*, Abstract. As is illustrated within Page 3, paragraph 3 of *Shear*, it is a “primary object” of the *Shear* invention to provide a data interchange system “adapted to translate or transform” messages having a first data format into a second message with a dissimilar data format or structure. This “interchange system” is only disclosed within the *Shear* reference as being adapted to “translate or transform message 116, into the format or data structure utilized by computer system 14.” *Shear*, Page 6, paragraph 4. There is no suggestion in this or any other portion of *Shear* that its translation or transformation activities include assigning identification to data or database systems as claimed.

As discussed above, one of the key functions of the identification system of the claimed invention is to enable identification and communication of dissimilar data between database systems, without requiring a translation or transformation of data or the use of industry-standardized messages to identify and exchange the data within the network. There is no mention of data being exchanged between disparate databases in *Shear*, because its system does not enable data to be directly exchanged between disparate database types. *Shear* only discusses a dissimilar data format or structure within a message, and the need to reformat the message into a second format, while it is silent on the use of any identification methods to accomplish this action.

Further, the various disclosed translation features and configuration are not equivalent to the identification system of the present invention, because the *Shear* reference does not teach or suggest the claimed feature of an identification system “configured to assign unique

identification to data within” the database system. The translator system of *Shear* instead relies on data to be extracted from a first database system and communicated through its translator system before any data can be sent to the second database system. There is no teaching or suggestion that any action is taken upon data being stored within *Shear*’s database systems to add or modify the identification of the data. Rather, *Shear* suggests that two database systems which utilize a distinct data format must use a separate translation system to translate the data before any data exchange may occur. See *Shear*, Page 9, lines 1-12.

As an additional distinction to the teaching of the *Shear* reference, the identification system of the claimed invention is able to assign identification to the entire database system and the data contained therein independently of communications. This is because this claimed feature enables identification to be assigned to data “within” the database system, and as recited in Claim 3, enables attaching identification “for each record existing in the database communication network.” See Specification, Paragraph 0064.

Within the “Response to the Arguments” section of the Final Rejection, the Examiner alleged that the feature of assigning identification to data and the database system before any communication takes place is not recited in the rejected claims. Although the claim does not affirmatively state that identification *must* be performed before communication takes place, the recited text of an “identification system configured to assign unique identification to data stored within each of the first and second database system” clearly refers to actions being performed on data records existing within the database. Because data needs to exist within a database system before it can be transferred in a communication, it is an inherent feature of the claimed invention to enable the assignment of unique identification to data and the database system before a database communication occurs. This is not possible with the disclosed system in *Shear*.

Additionally, with respect to Claims 5, 12, and 47, the claimed invention recites that the first server comprises a communication component configured to identify a database system in communication with the database system to receive the first information. Restated, these claims recite identifying the other database system that is communicating, in order to prepare for the receipt of information from the other database system. The Final Rejection suggests that this feature is taught by *Shear*’s disclosure of a “communication relationship with server 22.”

Although *Shear* does suggest that communications between database systems will occur, it does not teach or suggest that any database system, or any communication component operating on the database system, is configured to identify another database system during communication to receive information. *Shear*'s lack of teaching related to both assigning identification and utilizing identification with disparate database systems would not render the aforementioned claimed identification features obvious to one of ordinary skill in the art.

(2) The *Shear* Reference Fails to Teach or Suggest Communication Occurring Between Database Systems as in Claims 1, 30, 46, 47, and 51

Independent claims 1, 30, 46, 47 recite, inter alia, a first database system, a second database system, and an identification system "in communication with each of the first and second database system...wherein the first database system, second database system, and identification system are configured to support direct and indirect communication." The combination of Applicants' Admissions and the *Shear* reference fails to teach or suggest this limitation related to the configuration or use of direct communication between database systems.

As an initial matter, the "Applicant's Admissions" merely depicts the existence of multiple database systems as well-known in the art, with these database systems indirectly communicating to each other through use of messaging systems and communication devices that are connected within a network. In contrast, as depicted in Figure 3 and described in Paragraph 0051 of the present invention specification, the claimed invention enables the use and operation of database systems to directly communicate with each other over a network, without the need for a messaging or translation system or the conversion of data communications to another format. Therefore, the configuration of the claimed invention enables both direct and indirect communication between disparate database systems, as compared with typical prior art systems which require indirect communication and translation.

The Final Rejection alleges that *Shear* depicts a first database system, second database system and identification system "configure[d] to support direct and indirect communication", as illustrated in its Figures 6-7. A close examination of Figures 6 and 7, however, merely demonstrates the use of intermediary database communication components and indirect connections similar to the Applicant's Admissions that were well-known in the prior art.



As depicted in Figure 6, a number of remote controlling servers (reference numerals 58, 60, 62, 64) are connected via a network connection, either X.25 or ISDN 66, to a central controlling server. For example, for remote server 58 to communicate with remote server 60, a connection needs to be made through the controlling server 56. This figure may demonstrate the potential of an indirect communication between two remote servers, but it does not demonstrate how two remote servers are capable of communicating with each other with direct communication as claimed.

Figure 7 depicts a similar configuration, with a number of remote controlling servers connected in a hierarchy to the central controlling server. This figure also depicts some of the remote controlling servers containing translators which transform data independently from the central controlling server 56. See *Shear*, Page 9, paragraph 2. However, using the example above, for remote server 58 to communicate with remote server 60, a connection still needs to be made through the controlling server. The fact that a translation function may be performed to help facilitate communications between systems does not remove the fact that this configuration only supports the use of indirect communication. Neither these figures nor the remainder of *Shear* demonstrates any teaching of direct communication between database systems as claimed.

As previously explained, the claimed invention enables unique identification to be applied and associated directly to the data stored in the database system, keeping the database data intact in its original format. Because the claimed invention assigns identification to data already existing within the database system, the database systems are also able to directly identify data and communicate with each other without the need of a translator module or an additional level of operations. Thus, this feature of direct communication between databases at the database level further distinguishes the claimed invention from the teachings of *Shear*.

Further, unlike the claimed transfer of information directly to and from a database within Claims 4, 5, 11, 12, and 53, the *Shear* reference teaches a required use of translators and message translations when communications in the form of messages are sent within its network. See Page 9, Paragraph 1. *Shear* further discloses translating and transforming a message “from a first message format or structure into a second and dissimilar message format or structure.” Thus, *Shear* is primarily concerned with the communication of messages between systems, and uses

translators to overcome any dissimilar message formats. As a very important point of difference, the claimed invention does not convert raw data to or from a message, or require use of messages for a communicating to occur. The claimed invention instead communicates data directly between database systems. *Shear* instead focuses on translating messages, and does not enable communication of data to be performed at the lowest level of storage – the database itself.

In addition to *Shear* failing to teach or suggest the use of the claimed identification and communication features to one of ordinary skill in the art, the following sections address additional features of the dependent claims which are not addressed by the cited reference. As detailed below, the *Shear* reference also fails to teach or suggest the claimed features related to: information translation; matching information; communication with an external system; and transmission tracking. Therefore, Appellant submits that the following dependent claims are not rendered obvious by the combination of the Appellant's Admissions and the *Shear* reference.

(3) The *Shear* Reference Fails to Teach or Suggest the Translation Features of Claims 6-7 and 13-14

Claims 6-7 and 13-14 recite the general use of a translation component to translate information into a format compatible for a database system, which may further include dictionary and a translator subcomponents. This component enables the ability to translate data field names and information to other field names or information, through the use of industry-standard dictionaries and terms. See Specification, Paragraphs 0076-0077. Appellant submits that the *Shear* reference fails to disclose the claimed translation features, and in fact, expressly teaches away from use of a dictionary to convert messages.

As disclosed in Page 1, paragraph 3 of *Shear*, the reference suggests that prior systems using “dictionary structure techniques” are not viable solutions. The *Shear* reference further states that the use of dictionaries is ineffective because dictionaries may not have sufficient entries to translate or transform the various data structures being communicated. See *Shear*, Page 2, Paragraphs 1-2. Thus, instead of teaching use a dictionary, *Shear* teaches toward a method of converting messages with translator components, following a number specific rules to translate and exchange messages.

Therefore, although *Shear* broadly discusses performing data translations of different

message formats and data constructions, it teaches away from use of the claimed dictionary components. Further, the *Shear* reference does not teach or suggest how a translation may be directly applicable to the data or data fields within the messages themselves. As is disclosed throughout Page 3 of *Shear*, its data translator and interchange components are configured to perform translation, transformation, and other actions on the data message, rather than the data fields and information as claimed.

The reference and the claimed invention present contrary teachings on the purposes and actions performed within translations and the use of dictionaries. The disclosure of the claimed invention utilizes dictionary components to translate and transform database information into correct record layouts and formats. See Paragraphs 0075-0077. The modification of the *Shear* system to accomplish this end result would require extensive changes, while the Final Rejection fails to present any rationale for such a modification. Therefore, Appellant submits that use of the claimed features relating to translation components and dictionaries would not be obvious to one of ordinary skill in the art based on the proper scope of the *Shear* teachings.

(4) The *Shear* Reference Fails to Teach or Suggest the Matching Features of Claims 8-10, 15-17, 31

Claims 8-10 and 15-17 recite the general use of components that match information, enabling information about an expected database transaction to be compared to information regarding an actual database transaction. This is performed through the use of a recited matching component, which compares the information, and can further cause a matching or non-matching notification to be transmitted out of the database system if the information does or does not match respectively. See Specification, Fig. 25; Paragraphs 0158-0164.

The disclosure of the *Shear* reference does not teach or suggest any use of a matching component, or the performance of any matching actions related to the correct performance or non-performance of database transactions. The “archiving system” purportedly showing this feature in the Final Rejection in Figure 2 of *Shear* is not disclosed as performing any functions related a comparison of data. See *Shear*, Page 7, Lines 15-19. Moreover, the archival system of *Shear* does not match communicated information with expected information, nor does it match any expected transactions to actual transactions, as its system only processes messages that are

successfully received. Although *Shear* does disclose the use of bi-directional messages (See Page 2, Paragraph 4), the reference does not suggest that any matching action or additional matching processing might be performed upon the communications and transactions.

With respect to claims 9-10 and 16-17, there is no disclosure or suggestion related to performing a response when matching or non-matching expected with actual messages in *Shear*. Instead, *Shear* only suggests converting all messages found within the system through use of its data interchange system (See Page 9, paragraph 1), but if a message does not match the translator, then a user interface makes it easy to modify the translator system or create a new translator (See Page 9, paragraph 3 – Page 10, paragraph 1). Further, because *Shear* suggests that the creation of this new translator is easy to define within its system, the reference provides no motivation to reject or perform additional processing for non-matching messages as claimed. Appellant submits that one skilled in the art would not be taught the claimed matching features based on the archival system and messaging disclosed by *Shear*.

(5) The *Shear* Reference Fails to Teach or Suggest Features of Communication with an External System of Claims 18-25, 47-49, and 52-53

Claims 18-25, 47-49, and 52-53 generally recite the use of an external system in communication with a database system, with the external system enabled to further contain a connection component, a gathering component, and a delivery component used for ensuring receipt and transmission of data with the database system. The cited *Shear* reference fails to teach or suggest each of these claimed components or related features of communication between an external system and the database system.

Specifically, *Shear* does not expressly disclose the use of a connection between a database and an external system, but rather defines a collection of distributed translators, where each translator may be called upon to perform a message translation between networked systems. See Page 9, paragraphs 1-2. *Shear* fails to disclose a gathering system that is enabled to read data from external sources other than databases as disclosed in Paragraph 0137, which defines an external system as including applications, files, databases, or systems that are not connected directly to the database network. Further, *Shear* does not teach the use of a unique identifier being present within the data or gathered or delivered from the external sources.

*Shear* makes no mention within its disclosed message conversions of how a converted message might be retrieved from an external application or system and processed to be stored as formatted data in a business database. For example, with the invoice transaction processing examples in pages 12-13 of *Shear*, the only references to the storage of this application data are related to records that are contained in messages exchanged within the network. This brief disclosure does not teach or suggest how the *Shear* system would be enabled to access and process multiple back-end real time updates of data, and coordinate communications with external systems as performed in the claimed invention.

(6) The *Shear* Reference Fails to Teach the Transmission Tracking Features of Claims 26-29

As claimed within dependent Claims 26-29, a transmission tracker file is recited as receiving the information that could not be transmitted out of the database system, and a transmission time tracking component is recited as tracking a period of time that the first information could not be transmitted in addition to notifying an administrator after a predefined period of time. See Specification, Paragraphs 0117-0121. Therefore, this claimed feature enables additional processing to occur if database information is unsuccessfully transferred.

The *Shear* reference does not teach or suggest the utilizing any tracking components for its message exchanges. Rather, the reference relies on a “gateway agent” and other commercially available services and products to transmit messages to external parties according to the results of its communications (See *Shear*, Page 8, Paragraph 3). In contrast, the tracker file as claimed and explained in Paragraphs 0118 and 0122 of the specification collects additional information to track the receiving and logging of a database transaction to ensure that a receiving database has received an update, and that the update has been applied.

Within the claimed invention, if the confirmation of a successful database transmission is not received, then the tracker functions to collect the information for later resubmission. *Shear*, in contrast, does not discuss tracking the contents of a failed message transmission or the amount of time that information could not be updated to a database, nor does it disclose performing any other specific actions as a result of an unsuccessful transmission. The *Shear* reference only discloses internal functionality that is responsible for delivering a message, whereas the claimed

invention ensures that a database transmission is correctly received, applied, and persisted, and takes steps to remedy and alert an administrator if this information could not be transmitted.

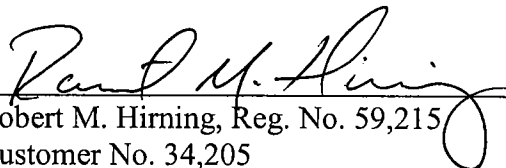
For at least these reasons, the cited prior art fails to teach or suggest each and every limitation of the amended claims. As outlined above, the differences between the cited prior art and the claimed invention are significant, preventing one of ordinary skill in the art from finding the claimed invention obvious over the prior art of record. Therefore, Appellant respectfully asserts that a prima facie case of obviousness has not been established and the rejection under §103(a) should be reversed.

### CONCLUSION

Appellant respectfully asserts that the independent claims, and therefore the dependent claims, are statutory subject matter under §101, and are not rendered obvious under §103(a) under a combination of the Applicants' admissions and the *Shear* reference. Accordingly, the Appellant requests that the Board of Patent Appeals and Interferences reverse the Examiner's decision.

If any fees are due in connection with the filing of this paper, then the Commissioner is authorized to charge such fees including fees for any extension of time, to Deposit Account No. 50-1901 (Reference No. 23515-3001).

Respectfully submitted,

  
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(viii) CLAIMS APPENDIX

1. (previously presented) A database communication network comprising:  
a first database system;  
a second database system in communication with the first database system; and  
an identification system in communication with each of the first and second database systems, the identification system configured to assign unique identification to data stored within each of the first and second database systems;  
wherein the first database system, second database system, and identification system are configured to support direct and indirect communication with each other.
2. (previously presented) The database communication network of claim 1 wherein the unique identification of data includes providing a first unique database identification schema to databases within the first database system and providing a second unique database identification schema to databases within the second database system.
3. (previously presented) The database communication network of claim 2 wherein the first and second unique database identifications schemas result in the identification system attaching unique identification for each record existing in the database communication network.
4. (previously presented) The database communication network of claim 1, wherein the first database system comprises:  
a first database; and  
a first server configured to receive first information from the first database and transmit the first information out of the first database system.
5. (original) The database communication network of claim 4, wherein the first server comprises a first communication component configured to identify a database system in communication with the first database system to receive the first information.

6. (original) The database communication network of claim 4, wherein the first server comprises a first translation component configured to translate the first information into a format compatible with any database system in communication with the first database system.
7. (original) The database communication network of claim 6, wherein the first translation component comprises:
  - a first dictionary component comprising format information for any database system in communication with the first database system; and
  - a first translator component configured to utilize format information from the first dictionary component to translate the first information into a format compatible with any database system in communication with the first database system.
8. (original) The database communication network of claim 4, further comprising a first matching component in communication with the first database, the first matching component configured to receive information regarding an expected first transaction and compare the information regarding the expected first transaction with information regarding an actual first transaction at the first database.
9. (original) The database communication network of claim 8, wherein the first matching component is further configured to cause a first matching notification to be transmitted out of the first database system if the information regarding the expected first transaction matches the information regarding the actual first transaction.
10. (original) The database communication network of claim 8, wherein the first matching component is further configured to cause a first non-matching notification to be transmitted out of the first database system if the information regarding the expected first transaction does not match the information regarding the actual first transaction.
11. (original) The database communication network of claim 4, wherein the second database system comprises:



a second database; and

a second server configured to receive second information from the second database and transmit the second information out of the second database system.

12. (original) The database communication network of claim 11, wherein the second server comprises a second communication component configured to identify a database system in communication with the second database system to receive the second information.

13. (original) The database communication network of claim 11, wherein the second server comprises a second translation component configured to translate the second information into a format compatible with any database system in communication with the second database system.

14. (original) The database communication network of claim 13, wherein the second translation component comprises:

a second dictionary component comprising format information for any database system in communication with the second database system; and

a second translator component configured to utilize format information from the second dictionary component to translate the second information into a format compatible with any database system in communication with the second database system.

15. (original) The database communication network of claim 11, further comprising a second matching component in communication with the second database, the second matching component configured to receive information regarding an expected second transaction and compare the information regarding the expected second transaction with information regarding an actual second transaction received at the second database.

16. (original) The database communication network of claim 15, wherein the second matching component is further configured to cause a second matching notification to be transmitted out of the second database system if the information regarding the expected second transaction matches the information regarding the actual second transaction.

17. (original) The database communication network of claim 15, wherein the second matching component is further configured to cause a second non-matching notification to be transmitted out of the second database system if the information regarding the expected second transaction does not match the information regarding the actual second transaction.
18. (original) The database communication network of claim 1, further comprising a first external system in communication with the first database system.
19. (original) The database communication network of claim 18, wherein the first database system further comprises a first connection component in communication with the first database and the first external system.
20. (original) The database communication network of claim 19, wherein the first external system is configured to input data into the first database system, the first external system comprising:
- a first gathering component in communication with the first connection component, the first gathering component configured to receive external data and transmit the external data to the first connection component; and
  - at least one first external file in communication with the first gathering component, the at least one first external file configured to provide the external data to the first gathering component.
21. (original) The database communication network of claim 19, wherein the first external system is configured to receive data from the first database system, the first external system comprising:
- a first delivery component in communication with the first connection component, the first delivery component configured to receive data from the first connection component and transmit the data; and
  - at least one first external file in communication with the first delivery component, the at

least one first external file configured to receive the data from the first delivery component.

22. (original) The database communication network of claim 18, further comprising a second external system in communication with the second database system.

23. (original) The database communication network of claim 22, wherein the second database system further comprises a second connection component in communication with the second database and the second external system.

24. (original) The database communication network of claim 23, wherein the second external system is configured to input data into the second database system, the second external system comprising:

- a second gathering component in communication with the second connection component, the second gathering component configured to receive external data and transmit the external data to the second connection component; and
- at least one second external file in communication with the second gathering component, the at least one second external file configured to provide the external data to the second gathering component.

25. (original) The database communication network of claim 23, wherein the second external system is configured to receive data from the second database system, the second external system comprising:

- a second delivery component in communication with the second connection component, the second delivery component configured to receive data from the second connection component and transmit the data; and
- at least one second external file in communication with the second delivery component, the at least one second external file configured to receive the data from the second delivery component.

26. (original) The database communication network of claim 4, wherein the first database system further comprises:

- a first transmission tracker file in communication with the first server, the first transmission tracker file configured to receive the first information that could not be transmitted out of the first database system; and
- a first transmission time tracking component in communication with the first transmission tracker file, the first transmission time tracking component configured to track a period of time that the first information could not be transmitted, the time tracking component further configured to transmit a message to an administrator after a predefined period of time.

27. (original) The database communication network of claim 4, wherein the first database system further comprises:

- a first application tracker file in communication with the first server, the first application tracker file configured to receive information that could not be applied to the first database; and
- a first application time tracking component in communication-with the first application tracker file, the first application time tracking component configured to track a period of time that the information could not be applied, the time tracking component further configured to transmit a message to an administrator after a predefined period of time.

28. (original) The database communication network of claim 11, wherein the second database system further comprises:

- a second transmission tracker file in communication with the second server, the second transmission tracker file configured to receive second information that could not be transmitted out of the second database system; and
- a second transmission time tracking component in communication with the second transmission tracker file, the second transmission time tracking component configured to track a period of time that the second information could not be

transmitted, the second time tracking component further configured to transmit a message to an administrator after a predefined period of time.

29. (original) The database communication network of claim 11, wherein the second database system further comprises:

an second application tracker file in communication with the second server, the second application tracker file configured to receive information that could not be applied to the second database; and

a second application time tracking component in communication with the second application tracker file, the second application time tracking component configured to track a period of time that the information could not be applied, the second application time tracking component further configured to transmit a message to an administrator after a predefined period of time.

30. (previously presented) A database system comprising:

a database; and a matching component in communication with the database, the matching component configured to receive information regarding an expected transaction and compare the information regarding the expected transaction with information regarding an actual transaction at the database; wherein direct or indirect communication occurs between the database and matching component.

31. (original) The database system of claim 30, wherein the matching component is further configured to cause a matching notification to be transmitted out of the database system if the information regarding the expected transaction matches the information regarding the actual transaction.

32. (withdrawn) A database system comprising:

a database;

a sync application configured to receive first outgoing information from the database; and

a communication component associated with the sync application, the communication

component configured to identify a target database system to receive the first outgoing information, wherein the sync application is configured to transmit the first outgoing information to the target database system.

33. (withdrawn) The database system of claim 32 further comprising a translation component associated with the sync application, the translation component configured to translate the first outgoing information into a format compatible with the target database system.

34. (withdrawn) The database system of claim 33 wherein the translation component comprises:

- a dictionary component comprising format information for the target database;
- a translator component configured to utilize the format information to translate the outgoing information into a format compatible with the target database.

35. (withdrawn) The database system of claim 32 wherein the first outgoing information comprises date information and time information relating to transmission of the first outgoing information.

36. (withdrawn) The database system of claim 32 further comprising:

- a transmission tracking database in communication with the sync application, the transmission tracking database configured to receive the first outgoing information that could not be transmitted out of the database system; and
- a transmission tracking component in communication with the tracking database, the transmission tracking component configured to track a period of time that the first outgoing information could not be transmitted.

37. (withdrawn) The database system of claim 36 wherein the transmission tracking component is further configured to transmit a message to an administrator after a predefined period of time.

38. (withdrawn) The database system of claim 36 wherein the transmission tracking component is further configured to transmit the first outgoing information out of the database system.
39. (withdrawn) The database system of claim 32 further comprising:  
an application tracking database in communication with the sync application, the application tracking database configured to receive first incoming information that could not be applied to the database; and  
an application tracking component in communication with the application tracking database, application tracking component configured to track a period of time that the first incoming information could not be applied to the database.
40. (withdrawn) The database system of claim 39 wherein the application tracking component is further configured to transmit a message to an administrator after a predefined period of time.
41. (withdrawn) The database system of claim 39 wherein the application tracking component is further configured to apply the first incoming information to the database.
42. (withdrawn) The database system of claim 32 further comprising a connection component in communication with the database and an external system.
43. (withdrawn) The database system of claim 42 further comprising a gathering component in communication with the connection component, the gathering component configured to receive second incoming information from the external system and transmit the second incoming information to the connection component.
44. (withdrawn) The database system of claim 42 further comprising a delivery component in communication with the connection component, the delivery component configured to receive second outgoing information from the connection component and transmit the second outgoing

information to the external system.

45. (withdrawn) A database system on a network, the database system comprising:  
a database;  
and an identification application in communication with the database, the identification application configured to apply a unique identification to a record in the database, whereby the record has a unique record identification in the network.
46. (previously presented) A database communication network comprising:  
a first database system comprising:  
a first database configured to receive data; and  
a first server comprising a first communication component configured upon receipt of data into the first database to identify a database system in communication with the first database system to receive first information and transmit the first information out of the first database;  
a second database system in communication with the first database system, the second database system comprising:  
a second database configured to receive data; and  
a second server comprising a second communication component configured upon receipt of data into the second database to identify a database system in communication with the second database system to receive second information and transmit the second information out of the second database; and  
an identification system in communication with each of the first and second database systems, the identification system configured to assign unique identification to data stored within each of the first and second database systems;  
wherein the first database system, second database system, and identification system are configured to support direct and indirect communication with each other.
47. (previously presented) A communication network comprising:  
at least two database systems, each of the at least two database systems comprising:



a database; a server associated with the database, the server comprising a communication component configured to receive outgoing information from the database, identify at least one of the at least two database systems to receive the outgoing information, and transmit the outgoing information to the at least one of the at least two database systems; and a connection component in communication with the database; and at least one external system, each of the at least one external systems in communication with the connection component of one of the at least two database systems; wherein the at least two database systems are configured to support direct and indirect communication with each other.

48. (original) The communication network of claim 47, wherein the at least one external system is configured to input data into the database system with which the at least one external system is in communication, the at least one external system comprising:

a gathering component in communication with the connection component, the gathering component configured to receive external data and transmit the external data to the connection component; and at least one external file in communication with the gathering component, the at least one external file configured to provide the external data to the gathering component.

49. (original) The communication network of claim 47, wherein the at least one external system is configured to receive data from the database system with which the at least one external system is in communication, the at least one external system comprising:

a delivery component in communication with the connection component, the delivery component configured to receive data from the connection component and transmit the data; and at least one external file in communication with the delivery component, the at least one external file configured to receive the data from the delivery component.

50. (withdrawn) A method of network-based communication comprising:  
designating a unique identifier for a database system on a network, wherein the unique identifier provides a unique identification across the network for each record in the database system;  
establishing synchronized communications between the database system and any other database system on the network.
51. (previously presented) A method of network-based communication comprising:  
automatically transmitting information out of a first database with assistance from a first transmission component within the first database upon input of data into the first database; adding time information to the information; and  
transmitting the information to a second database via direct or indirect communication to the second database.
52. (original) The method of claim 51, further comprising connecting the first database to a first external system.
53. (original) The method of claim 52, further comprising receiving data at the first database from the first external system.
54. (original) The method of claim 51, wherein adding time information to the notification information further comprises adding date information to the notification information.
55. (original) The method of claim 51, further comprising:  
receiving the notification information at the second database; automatically transmitting receipt information out of the second database with assistance from a second transmission component within the second database upon input of the notification information into the second database;  
adding time information to the receipt information; and transmitting the receipt information to the first database.

56. (original) The method of claim 55, further comprising connecting the second database to a second external system.

57. (original) The method of claim 56, further comprising transmitting the notification information to the second external system.

58. (original) The method of claim 55, wherein adding time information to the receipt information further comprises adding date information to the receipt information.

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(ix) EVIDENCE APPENDIX

None.

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(x) RELATED PROCEEDINGS APPENDIX

None